chronous on both eyes of the same animal; the secondary dilatation may be interrupted for a short time by a secondary contraction or the secondary dilatation need not occur at all. The pupil varies much in shape when completely contracted; it frequently is very irregular in outline. In man, rigor mortis of the iris begins in the second half of the day of death or the first half of the following day, hence is independent of the contractions of the skeletal muscles. Differences on both eyes are also observed very frequently. To explain the contraction, it must be assumed that the tonus of the dilator pupillæ is lost much sooner than that of the constrictor pupillæ. The author then examined a number of pupils that were altered in size by drugs shortly before death. Eserin injected subcutaneously was followed by myosis; shortly before death the pupils dilated and after death behaved as stated above. Applied locally, there was contraction, followed by maximum dilatation in the death agony; the post-mortal changes were the same as before. Exactly the same phenomena were observed after morphine injections and after division of the sympathetic nerve. The post-mortal variations in size were not affected by mydriatics instilled before death. The pupils did not dilate until just before death, and then contracted and dilated as before. When a drug which acts directly upon the muscles of the iris (adrenalin) was employed, the dilation persisted much longer after death and was followed by only a slight contraction. JELLIFFE

DIAGNOSTIC VALUE OF THE PLANTAR REFLEX. Stanley Barnes (Review of Neurology and Psychiatry, May, 1904).

From an examination of the Babinski sign in 2,500 patients Barnes contributes an important study. Particular attention has been paid to the methods of examination, and he prefers to speak of extensor and flexor reflexes, the former representing the true Babinski type. His conclusions are as follows: (1) In adults, an extensor response (Babinski's sign) never occurs in health; it is always indicative of organic disease. The pyramidal system need not be so injured as to show post-mortem lesions. An extensor response may be produced in any condition which greatly raises intracranial pressure, even if that condition does not cause a demonstrable lesion of the pyramidal system. For instance, an extensor response may occur in hydrocephalus, meningitis, cerebral tumor, etc.; in such cases the extensor response usually occurs in comatose or semicomatose states. An extenor response also occurs in convulsive conditions of organic origin, e. g., in epilepsy, uremia, infantile convulsions, strychnine poisoning, etc. An extensor response never occurs in hysteria and allied conditions unless some organic disease is also present. (2) A flexor response is the normal plantar reflex of the adult; it may also occur in pyramidal disease: (*a*) in acute conditions if only a small amount of the pyramidal influx is removed by an organic cause; or (*b*) in chronic cases, even when a large amount of the pyramidal influx is removed. (3) Under certain conditions it is sometimes possible to obtain in the extended position of a patient an extensor response, and in another position (Collier's) a flexor response from the same foot; this may be termed the position of pyramidal equilibrium. (4) The position of pyramidal equilibrium is lower in the scale of pyramidal disease in recent and acute cases than in cases where the disease is of long standing or very chronic origin. (5) There is a constant tendency in the adult for an extensor response to give way to a flexor response; the more chronic the case and the less severe the pyramidal lesion the more rapidly will a flexor response be reëstablished, even though the limb remain severely paralyzed and contractured. (6) The infantile response of children under the age of two years is dependent upon the immaturity of the pyramidal tracts; it resembles the response of pyramidal equilibrium rather than that of a full spasticity. (7) The extensor response comes on *simultaneously* with the incidence of pyramidal disease. The reflex is not abolished by total transverse section of the cord, and appears to be less affected than any other reflex by "nerve shock." (8) The plantar reflex may be absent in health when the foot is cold or damp; it is also frequently absent in hysteria, multiple neuritis, infantile paralysis affecting the leg, and in severe tabes. JELLIFFE.

TRAUMA AND DISEASES OF THE NERVOUS SYSTEM. Judson S. Busy (Brit. Med. Jour., April 30, 1904).

The author takes the position that when patients refer various nervous troubles to a precedent traumatism they are more often justified than the medical profession realizes. In discussing the effects of cerebral concussion, after noticing the more immediate and gross changes that may be produced, such as hemorrhage, inflammatory conditions, or laceration of brain substance, he considers the less conspicuous symptoms and changes which may develop later: the traumatic neuroses, insanity, cerebral tumor, and late apoplexy. Putting aside those cases of traumatic neurosis that are malingering or hysterical, there remains a class of cases which clinically resembles non-traumatic neurasthenia. In later stages these "bruised brain" cases can be diagnosed by their dullness and apathy; mental action instead of being acute and introspective, is carried on with difficulty; and insomnia is less common; in fact, there is often a tendency to drowsiness and stupor. Actual insanity may develop after head injuries, even though there is no hereditary predisposition. Tumors of the brain may sometimes owe their origin to nutritive changes produced by concussion. In some cases, weeks after a blow on the head the patient may have an apoplectic attack, hemorrhage from a ruptured artery, without having previously had any sign of arterial disease, and where syphilis, alcoholism or nephritis could be excluded from the case. Concussion of the spinal cord may cause immediate symptoms, or they may be delayed for several weeks. The more severe traumatism usually produce the more immediate symptoms. A subacute myelitis may not give symptoms until a month after the accident. The author suggests that other spinal cord diseases more or less degenerative in character, such as tabes, multiple sclerosis and chronic myelitis, may follow trauma, though no doubt in most cases the traumatism only cooperates with other causes, especially syphilis. Many cases of progressive muscular atrophy apparently originate from severe strain or other injury to a limb. The muscular atrophy depends on a damaged nutrition of the motor cells, this derangement being the effect of morbid impulses from the irritated nerves of the injured joint. CAMP.

JACKSONIAN EPILEPSY: OPERATION, RELIEF. H. Muir Evans (British Medical Journal, May, 4, 1904).

This case is evidently one of those early cases of epilepsy described by Gowers as originating in the first two years of life, and associated with a cortical lesion. The patient was 17 months old when she had the first convulsion. There was no history of injury or previous illness. The child was well developed and apparently healthy. The first convulsion involved only the left side, lasted six hours, and was followed by a temporary paralysis of the left side for fourteen days. There was a period of quiescence of eight months, then a recurrence of the attacks. The fits at this time were of two kinds, one a sudden dropping forward of the head, and the other a severe convulsive seizure involving the left side of the face and the left arm and leg. Between these attacks the child constantly made rapid sucking movements of the tongue, and there was paresis of the left side of the face, not affecting the eye.